

CUSTOMER NO.: 24498  
Attorney Docket No. PU020385  
Office Action Dated: February 1, 2008

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicants: William Henry Yost

Examiner: Moorthy, A.

Serial No: 10/524,285

Group Art Unit: 2131

Filed: February 10, 2005

Docket: PU020385

For: DOWNLOAD OPTIMIZATION IN THE PRESENCE OF MULTICAST DATA

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Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDED APPEAL BRIEF**

Applicant appeals the status of Claims 1-17 as presented in response to the Office Action dated September 27, 2007 and rejected in the final Office Action dated February 1, 2008, pursuant to the Notice of Appeal filed concurrently herewith and submits this appeal brief.

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**1. Real Party in Interest**

The real party in interest is THOMSON LICENSING S.A., the assignee of the entire right title and interest in and to the subject application by virtue of an assignment recorded with the Patent Office on 02/10/2005 at reel/frame 016694/0819.

**2. Related Appeals and Interferences**

None

**3. Status of Claims**

Claims 1-17 are pending. Claims 1-17 stand rejected and are under appeal.

A copy of the Claims 1-17 is presented in Section 8 below.

**4. Status of Amendments**

An Amendment under 37 CFR §1.111, mailed to the PTO on 11/19/07 in response to a non-final Office Action dated September 27, 2007, was entered. No Responses/Amendments were filed subsequent to the above Amendment mailed on 11/19/07. A final Office Action dated February 1, 2008, to which this Appeal Brief is directed, is currently pending.

**5. Summary of Claimed Subject Matter**

Independent Claim 1 is directed to a "method for optimizing a download of requested data to an electronic data processing unit that is currently receiving unrequested multicast data through a router included in a network, the unrequested multicast data corresponding to at least one multicast

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one multicast data group" (Claim 1, preamble).

The subject matter of the first element (beginning with "sending") recited in Claim 1 is described, e.g., at: page 7, lines 15-17. Moreover, the subject matter of the first element of Claim 1 involves, e.g.: element 220 of FIG. 2.

The subject matter of the second element (beginning with "ignoring") recited in Claim 1 is described, e.g., at: page 7, lines 22-25. Moreover, the subject matter of the second element of Claim 1 involves, e.g.: elements 240 and 250 of FIG. 2.

Independent Claim 6 is directed to "[i]n a network having a router, a system for optimizing a download of requested data occurring concurrently with a receipt of unrequested multicast data from the router, the unrequested multicast data corresponding to at least one multicast data group" (Claim 6, preamble).

The subject matter of the first element (beginning with "an electronic data processing unit") recited in Claim 6 is described, e.g., at: page 6, lines 3-4; page 7, lines 15-17; and page 7, lines 22-25. Moreover, the subject matter of the first element of Claim 6 involves, e.g.: element 110 of FIG. 1.

Independent Claim 13 is directed to a "program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for optimizing a download of requested data to an electronic data processing unit that is currently receiving unrequested multicast data through a router included in a network, the unrequested multicast data corresponding to at least one multicast data group" (Claim 1, preamble).

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The subject matter of the first element (beginning with "sending") recited in Claim 1 is described, e.g., at: page 5, line 15 to page 6, line 4; and page 7, lines 15-17. Moreover, the subject matter of the first element of Claim 1 involves, e.g.: element 220 of FIG. 2.

The subject matter of the second element (beginning with "ignoring") recited in Claim 1 is described, e.g., at: page 5, line 15 to page 6, line 4; and page 7, lines 22-25. Moreover, the subject matter of the second element of Claim 1 involves, e.g.: elements 240 and 250 of FIG. 2.

It is to be noted that Claims 1 and 13 are similar except Claim 1 is directed to a method while Claim 13 is essentially directed to a program storage device embodying a program of instructions to perform the method. As noted above specifically with respect to Claim 13, support for the method being implemented in a program storage device (such as that claimed in Claim 13) may be found at least at page 5, line 15 to page 6, line 4 of the Applicants' specification.

**6. Grounds of Rejection to be Reviewed on Appeal**

Claims 1-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,826,6612 to Bosloy et al. (hereinafter "Bosloy") in view of Receiver-initiated Group Membership Protocol (RGMP): a New Group Management Protocol for IP Multicasting by Liao (hereinafter "Liao").

The preceding rejection under 35 U.S.C. §103(a) is presented for review in this Appeal with respect to Claims 1-17, as argued with respect to independent Claims 1, 6, and 13.

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Regarding the grouping of the Claims, Claims 2-5 stand or fall with Claim 1, Claims 7-12 stand or fall with Claim 6, and Claims 14-17 stand or fall with Claim 13, due to their respective dependencies.

**7. Argument**

**A. Introduction**

In general, the present invention is directed to a download optimization in the presence of multicast data (Applicant's Specification, Title). As disclosed in the Applicant's specification at page 1, lines 11-18:

When an electronic data processing unit requests Internet Protocol (IP) data, either unicast data directed to the unit, or multicast data, there may also be transmitted to it multicast data which it has not requested. One way this can happen is if the unit was previously joined to one or more multicast groups and then was halted and rebooted. After rebooting, the multicast data continues to be received by the unit even though it does not currently request it. Due to the limited bandwidth of the network line and the continued transmission of the IP multicast stream, the downloading of the requested data is undesirably slowed.

Advantageously, the present principles provides a method (Claim 1), system (Claim 6), and program storage device (Claim 13) for optimizing a download of requested data to an electronic data processing unit that is currently receiving unrequested multicast data through a router included in a

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in a network, the unrequested multicast data corresponding to at least one multicast data group.

The claims of the pending invention include novel features not shown in the cited references and that have already been pointed out to the Examiner. These features provide advantages over the prior art and dispense with prior art problems such as those described above with reference to the Applicant's specification.

It is respectfully asserted that independent Claims 1, 6, and 13 are each patentably distinct and non-obvious over the cited references in their own right. For example, the below-identified limitations of Claims 1, 6, and 13 are not shown in any of the cited references, either taken singly or in any combination. Moreover, these Claims are distinct from each other in that they are directed to different implementations and/or include different limitations. For example, Claim 1 is directed to a method, while Claim 6 is directed to a system, and Claim 13 is directed to a program storage device. Accordingly, each of Claims 1, 6, and 13 represent separate features/implementations of the invention that are separately novel and non-obvious with respect to the prior art and to the other claims. As such, Claims 1, 6, and 13 are separately patentable and are each presented for review in this appeal.

**B. Whether Claims 1-17 are Unpatentable Under 35 U.S.C. §103(a) With Respect To U.S. Patent No. 6,826,612 to Bosloy et al. in view of Receiver-initiated Group Membership Protocol (RGMP): a New Group Management Protocol for IP Multicasting by Liao**

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"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art" (MPEP §2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious" (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

The Examiner rejected Claims 1-17 as being unpatentable over " U.S. Patent No. 6,826,612 to Bosloy et al. (hereinafter "Bosloy") in view of Receiver-initiated Group Membership Protocol (RGMP): a New Group Management Protocol for IP Multicasting by Liao (hereinafter "Liao"). The Examiner contends that the cited combination of Bosloy and Liao show all the elements recited in independent Claims 1, 6, and 13.

Bosloy is directed to a "method and apparatus for an improved Internet group management protocol" (Bosloy, Title). In further detail, Bosloy discloses the following in his Abstract:

A method and apparatus for controlling multicast group subscriptions in a multicast distribution circuit is presented. When a router included in the multicast circuit receives notification to terminate support of a particular multicast group (group leave request), data flow with respect to that multicast group is initially maintained on the communication link coupling the router to the hosts. Queries are issued to hosts on the communication link to determine whether continued support of the particular group is desired by any hosts coupled to the communication link. If, while waiting for a positive response to the queries issued, a request to join an additional multicast group is received, bandwidth availability on the communication link is examined to



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availability on the communication link is examined to determine if adequate bandwidth is available for supporting the newly requested group addition. If adequate bandwidth is available, the newly requested group is added to those groups supported on the communication link. However, if adequate bandwidth for support of the newly requested group is not available, one or more groups that are pending termination (group specific queries have been issued for these groups) are selected for early termination in order to make enough bandwidth available to support the newly requested group addition. The selection criteria utilized to determine the groups to be terminated may be based on a variety of parameters.

Liao is directed to a "receiver-initiated group membership protocol (RGMP): a new group management protocol for IP multicasting" (Liao, Title). In further detail, Liao discloses the following in the Abstract:

Internet multicast is an important networked service for many existing and emerging applications. The dominant mechanism for group management of IP multicasting is the Internet Group Management Protocol (IGMP). IGMP is based on a query/reply model and refreshes group membership periodically. IGMP has been evolving through three versions. IGMP v1 develops the basis of the query/reply group management model and suppression mechanism of IGMP v1/v2. In this paper, a new group management protocol called Received-initiated Group Membership Protocol (RGMP) is proposed. Both source filtering and membership report suppression are

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report suppression are supported. An RGMP host actively refreshes group membership in the neighboring multicast routers. No querier, and hence no query messages and timers, is required for periodically probing the presence of known groups. An individual host maintains a refresh timer per group. The refresh timer is reset once the suppression rule holds for a received report message, where the report may be a join, leave, state change, or a periodical refresh message. The receiver-initiated, self-synchronized refresh timer makes the RGMP suppression mechanism superior to that of IGMP v1/v2, which applies only for periodical refresh report message. As a result, the protocol overhead compared to IGMP v3 is significantly reduced, over a wide variety of service scenarios. In addition to reduced protocol overhead, RGMP is robust, scalable and adaptive to serve as a group management protocol.

It will be shown herein below that the limitations of Claims 1, 6, and 13 reproduced herein are not shown in the cited combination of Bosloy and Liao, and that Claims 1, 6, and 13 should be allowed including the claims dependent there from as identified in Section 6 herein.

**B1. Claims 1-17**

It is respectfully asserted that the cited combination of Bosloy and Liao does not teach or even remotely suggest "ignoring IGMP Membership Queries for the at least one multicast data group issued by the router so as to cause the router to terminate a transmission of the unrequested multicast data to free up available bandwidth for the download of the requested data," as recited in Claims 1 and

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in Claims 1 and 13.

Moreover, it is respectfully asserted that the cited combination of Bosloy and Liao does not teach or even remotely suggest "an electronic data processing unit ... for ignoring IGMP Membership Queries for the at least one multicast data group issued by the router so as to cause the router to terminate a transmission of the unrequested multicast data to free up available bandwidth for the download of the requested," as recited in Claim 6.

The Examiner cited column 9, lines 45-56 of Bosloy as disclosing the same, noting that "Bosloy et al does not teach that Internet Group Management Protocol (IGMP) is Internet Group Management Protocol (IGMP) V2" (Office Action, p. 3). The Examiner then continued "Liao teaches the use and benefits of Internet Group Management Protocol (IGMP) V2 [page 2]."

The Applicant respectfully disagrees with the Examiner's reading of the cited references.

For example, column 9, lines 45-56 of Bosloy disclose the following:

Thus, in one embodiment of the invention, all of the groups included in the membership verification set of groups may simply be terminated or disconnected when a new group join request is received. This provides a simple and easy to implement technique that only terminates groups prematurely when a join request is received. Enabling bandwidth comparison allows for selective termination of groups to enable join requests to be serviced, which further enhances the efficiency with which the available bandwidth is utilized. If bandwidth comparison is determined to be enabled at step 109, the method proceeds to step 111.

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Initially, it is respectfully asserted that Bosloy does not even mention IGMP Membership Queries or even Membership Queries in the portion (column 9, lines 45-56 of Bosloy) cited by the Examiner, let alone ignoring (IGMP) Membership Queries, and further let alone ignoring (IGMP) Membership Queries so as to cause the router to terminate a transmission of the unrequested multicast data.

As is evident, "ignoring (240) IGMP Membership Queries for the at least one multicast data group issued by the router so as to cause the router to terminate a transmission of the unrequested multicast data to free up available bandwidth for the download of the requested data" as recited in each of Claims 1, 6, and 13 does not correspond to receiving a group join request to terminate a group.

For example, an IGMP membership query is NOT a group join request. As disclosed at page 5, lines 5-7 of the Applicant's Specification, an "IGMP V2 Membership Query is used by a router to determine whether any group members exist for a particular multicast group." However, the determination of whether any group members exists for a particular multicast group as per the IGMP V2 Membership Queries recited in Claims 1, 6, and 13 does not correspond to joining a group as per the group join request disclosed in Bosloy.

Moreover, even assuming arguendo that an IGMP membership query as recited in Claims 1, 6, and 13 does correspond to a group join request as disclosed by Bosloy, or that Liao discloses an IGMP membership query, Claims 1, 6, and 13 recite that IGMP membership queries are IGNORED so as to cause the router to terminate a transmission of the unrequested multicast data, while Bosloy discloses the use (i.e., transmitting, receiving, and active processing, certainly the latter being the opposite of ignoring) of the group join request. In fact, as provided above, Bosloy explicitly discloses a

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Bosloy explicitly discloses a "technique that ONLY terminates groups prematurely when a join request is received" (Bosloy, col. 9, lines 45-56). Bosloy's use of the word "ONLY" needs to be considered.

Accordingly, neither the cited sections of Bosloy or Liao, either taken singly or in combination, teach or suggest the above recited limitations of Claims 1, 6, and 13.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art" (MPEP §2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

Thus, Claims 1, 6, and 13 are patentably distinct and non-obvious over the cited references for at least the reasons set forth above.

Moreover, as is well settled, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention when there is some teaching, suggestion, or motivation to do so found either implicitly or explicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art (see, e.g., MPEP §2143.01).

Here, the Applicant respectfully asserts that no such teaching, suggestion, or motivation exists. In fact, not only does no such teaching, suggestion, or motivation exist, but it is respectfully asserted that Bosloy teaches away from the present principles as claimed.

For example, as is also well settled, a prior art reference must be considered in its entirety, i.e., as a whole, INCLUDING PORTIONS THAT WOULD LEAD AWAY FROM THE CLAIMED INVENTION. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) (emphasis added) (*see also*, MPEP §2141.03)). In

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§2141.03)). In consideration thereof, the Examiner is pointed to column 1, lines 58-62 of Bosloy, which explicitly disclose “[t]he prior art IGMP standards deal with the inclusion or deletion of particular multicast transmissions, or groups, from the communication link in an INEFFICIENT manner that reduce the overall functionality of the multicast system” (emphasis added)(see also, Bosloy, col. 1, line 63 to col. 2, line 39). Thus, given that the disclosure in Bosloy clearly and explicitly teaches away from the IGMP standards and the use of their corresponding queries, a combination of Bosloy with Liao is not only not taught, nor suggested, nor a result of some motivation to combine, but further Bosloy teaches away from the claimed invention in the first place, which is explicitly proscribed by applicable case law and MPEP §2141.03.

It is to be noted that in the “Response to Arguments” section of the Office Action dated February 1, 2008, the Examiner ONLY addressed the Applicant's argument directed to the cited references “teaching away.” To that end, the Examiner stated that “[t]he question of whether a reference is analogous art is not relevant to whether that reference anticipates. ... The question of whether a reference ‘teaches away’ from the invention is inapplicable to an anticipation analysis” (Office Action, pp. 2-3). However, it is respectfully pointed out that the pending (and previous, as the rejections are the same) rejection against Claims 1-17 is an obviousness type rejection and NOT an anticipation type rejection as argued by the Examiner. Hence, the Examiner's reasoning is flawed as a matter of law. Accordingly, the argument as to teaching away is properly asserted by the Applicant.

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Further, given Bosloy's disparagement (essentially spanning the entire background section of Bosloy's Patent) of the IGMP standards and their corresponding queries, and Bosloy's corresponding complete avoidance in using and/or otherwise relying upon such queries, it is respectfully asserted that the result of the cited combination of Bosloy and Liao would change the principle of operation of Bosloy, which is explicitly proscribed under MPEP §2143.01.

The following text of MPEP §2143.01 is provided for convenience:

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).

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Thus, in Bosloy, the principle of operation involves the receipt of a group join request, where the disparagement of IGMP V1 and V2 queries and corresponding non-use thereof (where non-use altogether is clearly different than explicitly ignoring as recited in Claims 1, 6, and 13, as ignoring is being explicitly used by the inventions of Claims 1, 6, and 13 to accomplish a specified result) must be considered, while Liao discloses IGMP V2.

Thus, modifying Bosloy with Liao to arrive at the present invention as claimed in Claims 1, 6, and 13 would effectively change the principle of operation of either of these references, which is prohibited under MPEP §2143.01.

Accordingly, the combination of Bosloy and Liao is improper for at least the reasons set forth above.

"If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious" (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Accordingly, Claims 1, 6, and 13 are patentably distinct and non-obvious over the cited references for at least the reasons set forth above. Therefore, withdrawal of the rejection and allowance of Claims 1 (and, thus, also Claims 2-5), Claim 6 (and, thus, also Claims 7-12), and Claim 13 (and, thus, also Claims 14-17) is earnestly requested.



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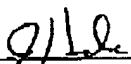
**C. Conclusion**

At least the above-identified limitations of the pending claims are not disclosed or suggested by the teachings of the cited references. Accordingly, it is respectfully requested that the Board reverse the rejection of Claim 1-17 under 35 U.S.C. §103(a).

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Respectfully submitted,

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**8. CLAIMS APPENDIX**

1. (previously presented) A method for optimizing a download of requested data to an electronic data processing unit that is currently receiving unrequested multicast data through a router included in a network, the unrequested multicast data corresponding to at least one multicast data group, the method comprising:

sending Internet Group Management Protocol (IGMP) V2 Leave Messages for the at least one multicast data group to the router; and

ignoring IGMP Membership Queries for the at least one multicast data group issued by the router so as to cause the router to terminate a transmission of the unrequested multicast data to free up available bandwidth for the download of the requested data.

2. (previously presented) The method of claim 1, wherein the requested data comprises at least one of configuration data and program guide data.

3. (previously presented) The method of claim 1, wherein said ignoring step comprises the step of preventing a transmission of an IGMP Membership Report to the router in response to the IGMP Membership Queries.

4. (previously presented) The method of claim 1, further comprising the step of downloading the requested data while the transmission of the unrequested multicast data has been terminated.